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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/120,664	07/22/1998	DAVID F. GAVIN	101792-300	2454
27267	7590	08/05/2010	EXAMINER	
WIGGIN AND DANA LLP			GROSS, CHRISTOPHER M	
ATTENTION: PATENT DOCKETING			ART UNIT	PAPER NUMBER
ONE CENTURY TOWER, P.O. BOX 1832				1639
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			08/05/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/120,664	GAVIN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	CHRISTOPHER M. GROSS	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on 27 May 2010.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) 1,38,40,41 and 50-52 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,38,40,41 and 50-52 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
     Paper No(s)/Mail Date 9/14/2009/2/28/2010

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date, \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

### **DETAILED ACTION**

Responsive to communications entered 5/27/2010. Claims 1,38,40,41,50-52 are pending. Claims 1,38,40,41,50-52 are under consideration.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/10/2009 has been entered.

#### ***Priority***

This application has a filing date of 7/22/1998. Applicant makes no claim for the benefit of any prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c).

#### ***Election/Restrictions***

Applicant's election without traverse of zinc in the reply filed on 5/27/2010 is acknowledged.

#### ***Withdrawn Rejection(s)***

The rejection of claims 1, 40, 42, 46 under 35 U.S.C. 102(e) as being anticipated by Morris US Pat. No. 5,916,947 (6/99: filed 9/96 or earlier) is hereby withdrawn in view of applicant's amendments.

The rejection of claims 1,38, 40, 41,42, 46 and 50 under 35 U.S.C. 103(a) as being unpatentable over **Morris et al** (US Patent 5916947) in view of **Kappock et al** (US Patent 5518774; PTO 892 7/21/2004) is hereby withdrawn in view of applicant's amendments.

***New Claim Rejection - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,38,40,41,50-52 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Denesuk et al** (US Patent 6197156) as evidenced by *Kappock et al* (US Patent 5518774 - PTO 892 7/21/2004).

The claimed subject matter is drawn to a biocidal composition comprising composite particles:

each of said composite particles containing a shell and a core, said core consisting essentially of a metal or metal-containing compound selected from the group consisting of aluminum phosphate, bismuth oxide, iron II oxide, iron III oxide, silver, silver oxide, titanium oxide, zinc, zinc selenide, and zirconium oxide, and said shell

consisting essentially of a metal pyridhione formed by a transchelation reaction era water-soluble salt of pyridhione selected from the group consisting of sodium pyridhione and potassium pyridhione with a portion of the metal or metal- containing compound of said core in water.

**Denesuk et al** teach, throughout the document and especially figure 2 and column 1 a dog bed comprising a microbe-inhibiting agent.

In particular, Denesuk et al teach in column 15 line 40-54 and column 17 lines 10-12, 60, said microbe-inhibiting agent includes 0.3- 1 micron core zinc silicate core particles which are impregnated in fibers or resins and may be additionally coated with Omacide (zinc pyridhione), reading on the composite particle biocidal composition of claims 1,38,50 51 and 52.

The product of Denesuk et al meets all of the structural limitations of the claimed product (see above) except for the product-by-process limitations (i.e., "formed by a transchelation reaction of a water-soluble salt of pyridhione selected from the group consisting of sodium pyridhione and potassium pyridhione with a portion of the metal or metal containing compound of said core in water") and thus would either anticipate or render obvious the claimed biocidal composition such as set forth in claims 1, 38. See MPEP § 2113, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.' *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)."

Here, Applicants' claims are drawn to a biocidal composition (i.e., a product), but are defined by various method steps that produce said particles and, as a result, represent product-by-process claims. Thus, the process limitations do not appear to provide any patentable weight to the claimed invention in accordance with MPEP § 2113. One of ordinary skill would expect the product to be the same no matter how it was synthesized and/or prepared.

Said zinc silicate is taken as providing the material consisting essentially of zinc as set forth in claim 50 in accordance with MPEP 2111.03, which states: the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) (Emphasis in original) (Prior art hydraulic fluid required a dispersant which appellants argued was excluded from claims limited to a functional fluid "consisting essentially of" certain components. In finding the claims did not exclude the prior art dispersant, the court noted that appellants' specification indicated the claimed composition can contain any well-known additive such as a dispersant, and there was no evidence that the presence of a dispersant would materially affect the basic and novel characteristic of the claimed invention. The prior art composition had the same basic and novel characteristic (increased oxidation resistance) as well as additional enhanced detergent and dispersant characteristics.). "A consisting essentially of claim occupies a middle ground between closed claims that are written in a consisting of format and fully open claims that are drafted in a comprising' format." PPG Industries v.

Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998).

See also *Atlas Powder v. E.I. duPont de Nemours & Co.*, 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); *In re Janakirama-Rao*, 317 F.2d 951, 137 USPQ 893 (CCPA 1963); *Water Technologies Corp. vs. Calco, Ltd.*, 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir. 1988). **For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, “consisting essentially of” will be construed as equivalent to “comprising.”** Emphasis added.

Here, there is no indication in the claims or specification as to what the basic and novel characteristics of the present application actually is, thus consisting essentially of is construed as comprising (open to additional elements such as silicate counter ions), especially in view other counter ions such as phosphate and carbonate are disclosed in table 2 of the present speciation, as well as the fact that Kappock et al teach in column 3 lines 11-31 transchelation may be performed in same manner as the present application with zinc salts as well as other metals.

If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of,” applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also *Ex parte Hoffman*, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989).

With regard to claims 40 and 41, again in accordance with MPEP 2111.03, while the transitional phrase "consisting of" excludes any element, step, or ingredient not specified in the claim. *In re Gray*, 53 F.2d 520, 11 USPQ 255 (CCPA 1931); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("consisting of" defined as "closing the claim to the inclusion of materials other than those recited except for impurities ordinarily associated therewith.").... **When the phrase "consists of" appears in a clause of the body of a claim, rather than immediately following the preamble, it limits only the element set forth in that clause; other elements are not excluded from the claim as a whole.** *Mannesmann Demag Corp. v. Engineered Metal Products Co.*, 793 F.2d 1279, 230 USPQ 45 (Fed. Cir. 1986). >See also *In re Crish*, 393 F.3d 1253, 73 USPQ2d 1364 (Fed. Cir. 2004) (The claims at issue "related to purified DNA molecules having promoter activity for the human involucrin gene (hINV)." Id., 73 USPQ2d at 1365. In determining the scope of applicant's claims directed to "a purified oligonucleotide comprising at least a portion of the nucleotide sequence of SEQ ID NO:1 wherein said portion consists of the nucleotide sequence from ... to 2473 of SEQ ID NO:1, and wherein said portion of the nucleotide sequence of SEQ ID NO:1 has promoter activity," the court stated that the use of "consists" in the body of the claims did not limit the open-ended "comprising" language in the claims (emphases added in MPEP). Id. at 1257, 73 USPQ2d at 1367. The court held that the claimed promoter sequence designated as SEQ ID NO:1 was obtained by sequencing the same prior art plasmid and was therefore anticipated by the prior art plasmid which necessarily possessed the same DNA sequence as the claimed oligonucleotides. Id. at 1256 and 1259, 73 USPQ2d at

1366 and 1369. The court affirmed the Board's interpretation that the transition phrase "consists" did not limit the claims to only the recited numbered nucleotide sequences of SEQ ID NO:1 and that "the transition language comprising" allowed the claims to cover the entire involucrin gene plus other portions of the plasmid, as long as the gene contained the specific portions of SEQ ID NO:1 recited by the claim[s]" Id. at 1256, 73 USPQ2d at 1366. < Emphasis added.

Here, while claims 40 and 41 in of themselves are apparently closed to additional elements, such as silicates but claims 1 and 38, respectively, from which they depend utilize the comprising transitional term, thus taken as a whole, are open to metal-containing compounds such as zinc silicate.

#### ***New Claim Rejection(s) – 35 USC § 112***

The following is a quotation of the **first** paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1,38,40,41,52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection concerns "new matter"

Each of claims 1,38,40,41, as amended, are drawn to preparing particles comprising cores of aluminum phosphate, bismuth oxide, iron II oxide, iron III oxide, silver, silver oxide, titanium oxide, zinc, zinc selenide, or zirconium oxide by a transchelation reaction with potassium pyrithione.

The specification as originally filed provided no implicit or explicit support for performing a transchelation reaction of aluminum phosphate, bismuth oxide, iron II oxide, iron III oxide, silver, silver oxide, titanium oxide, zinc, zinc selenide, or zirconium oxide with potassium pyrithione. See also discussion below.

Applicants are reminded that it is their burden to show where the specification supports any amendments to the disclosure. See MPEP 714.02, paragraph 5, last sentence and also MPEP 2163.06 I.

MPEP 2163.06 notes “If new matter is added to the claims, the examiner should reject the claims under 35 U.S.C. 112, first paragraph - written description requirement. *In re Rasmussen*, 650 F.2d 1212, 211 USPQ 323 (CCPA 1981).” MPEP 2163.02 teaches that “Whenever the issue arises, the fundamental factual inquiry is whether a claim defines an invention that is clearly conveyed to those skilled in the art at the time the application was filed...If a claim is amended to include subject matter, limitations, or terminology not present in the application as filed, involving a departure from, addition to, or deletion from the disclosure of the application as filed, the examiner should conclude that the claimed subject matter is not described in that application. MPEP 2163.06 further notes “When an amendment is filed in reply to an objection or rejection based on 35 U.S.C. 112, first paragraph, a study of the entire application is often

necessary to determine whether or not “new matter” is involved. *Applicant should therefore specifically point out the support for any amendments made to the disclosure.*

Discussion

On p 4 first full paragraph of the 12/10/209 remarks, applicant asserts the support for potassium pyrithione transchelation of aluminum phosphate, bismuth oxide, iron II oxide, iron III oxide, silver, silver oxide, titanium oxide, zinc, zinc selenide, and zirconium oxide may be found in table 2 and the paragraph bridging pp 9-10 of the present specification.

With regard to table 2, it is noted that only sodium pyrithione is used. With regard to the paragraph bridging pp 9-10, in context, p 9 lines 27-29 state “The antifouling composition of the invention may be prepared by a transchelation reaction of pyrithione or a water-soluble salt of pyrithione and a **copper-containing minimally soluble salt, or copper particle.**” Emphasis added. More particularly, p 10 lines 5-10 state: “... **exemplary water soluble salts of pyrithione include** sodium pyrithione, **potassium pyrithione...** to cause transchelation of said pyrithione compound to **copper pyrithione**” Emphasis added. Accordingly, the paragraph bridging pp 9-10 of the present specification concerns transchelation of potassium pyrithione with copper compounds (with no broadening language), as opposed to, aluminum phosphate, bismuth oxide, iron II oxide, iron III oxide, silver, silver oxide, titanium oxide, zinc, zinc selenide and zirconium oxide, as alleged by applicant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER M. GROSS whose telephone number is (571)272-4446. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached on 571 272 0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher M Gross  
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